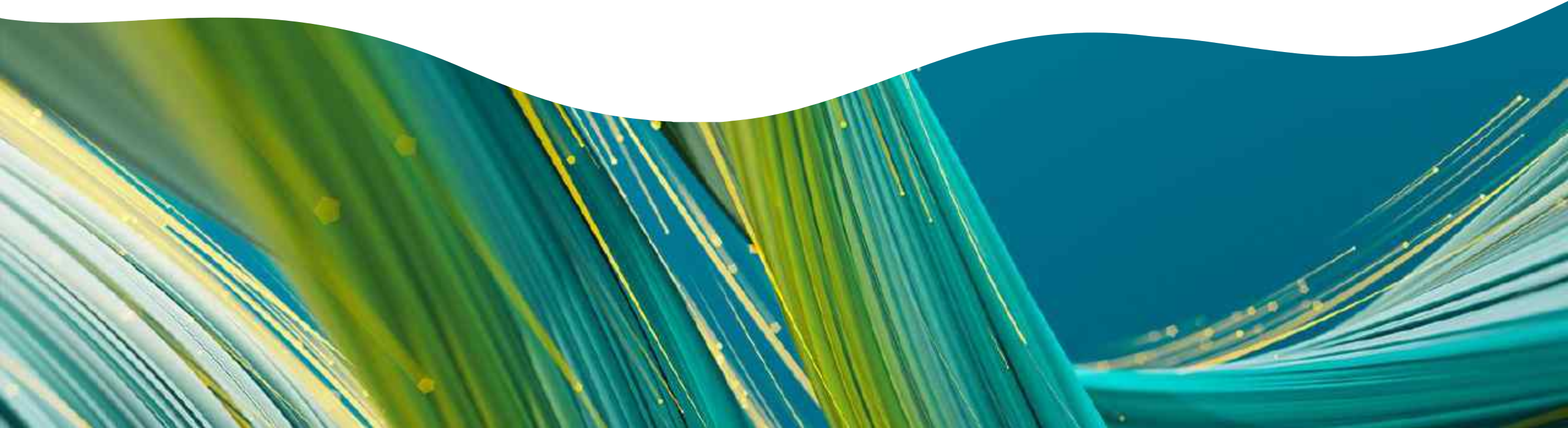


AI AS A SERVICE FROM GREEN

Why you need a Data Center to run large models

Markus Egger, Lead FSI Solutions at Green

15.03.2023



About Green.

Foundation
1995

Independent
provider
**with Swiss
management**

400+
customer projects
completed

**Preferred
partner**
of leading
hyperscalers

Multi-campus
**4 sites &
6 data centers**

Innovation &
growth program
480 mio. CHF

M & O Stamp
of approval
Uptime Institute

**Leading Swiss
DC provider**
ISG 2020, 2021 and
2022

Expertise in
**DC Exit &
Journey to
Cloud**

New flagship project
in
**energy-
efficiency**



**The
Economist**

MAY 6TH-12TH 2017

Crunch time in France

Ten years on: banking after the crisis

South Korea's unfinished revolution

Biology, but without the cells

The world's most valuable resource

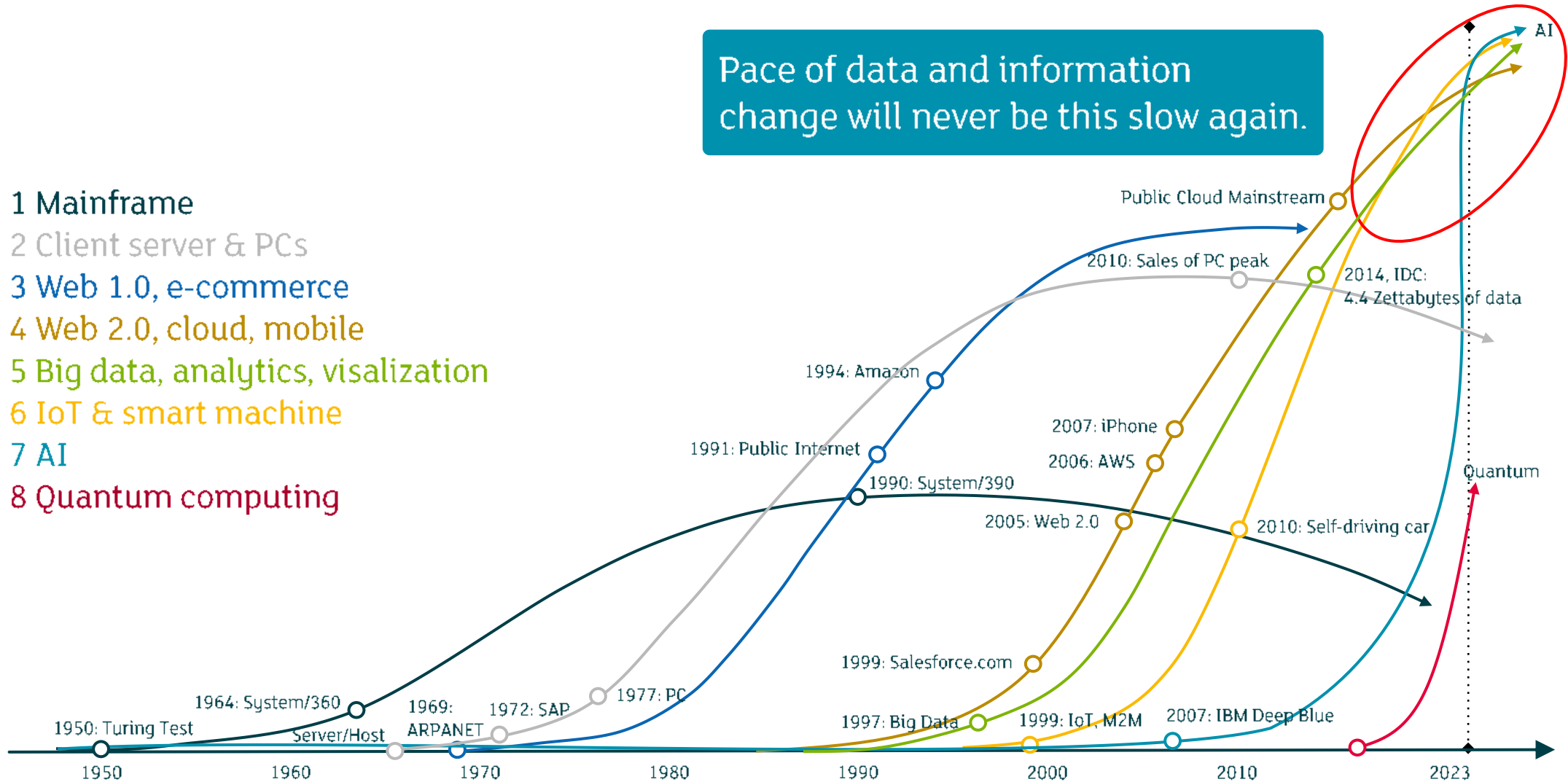
If data is the “New Gold”,
why aren't we all rich?

Data and the new rules
of competition

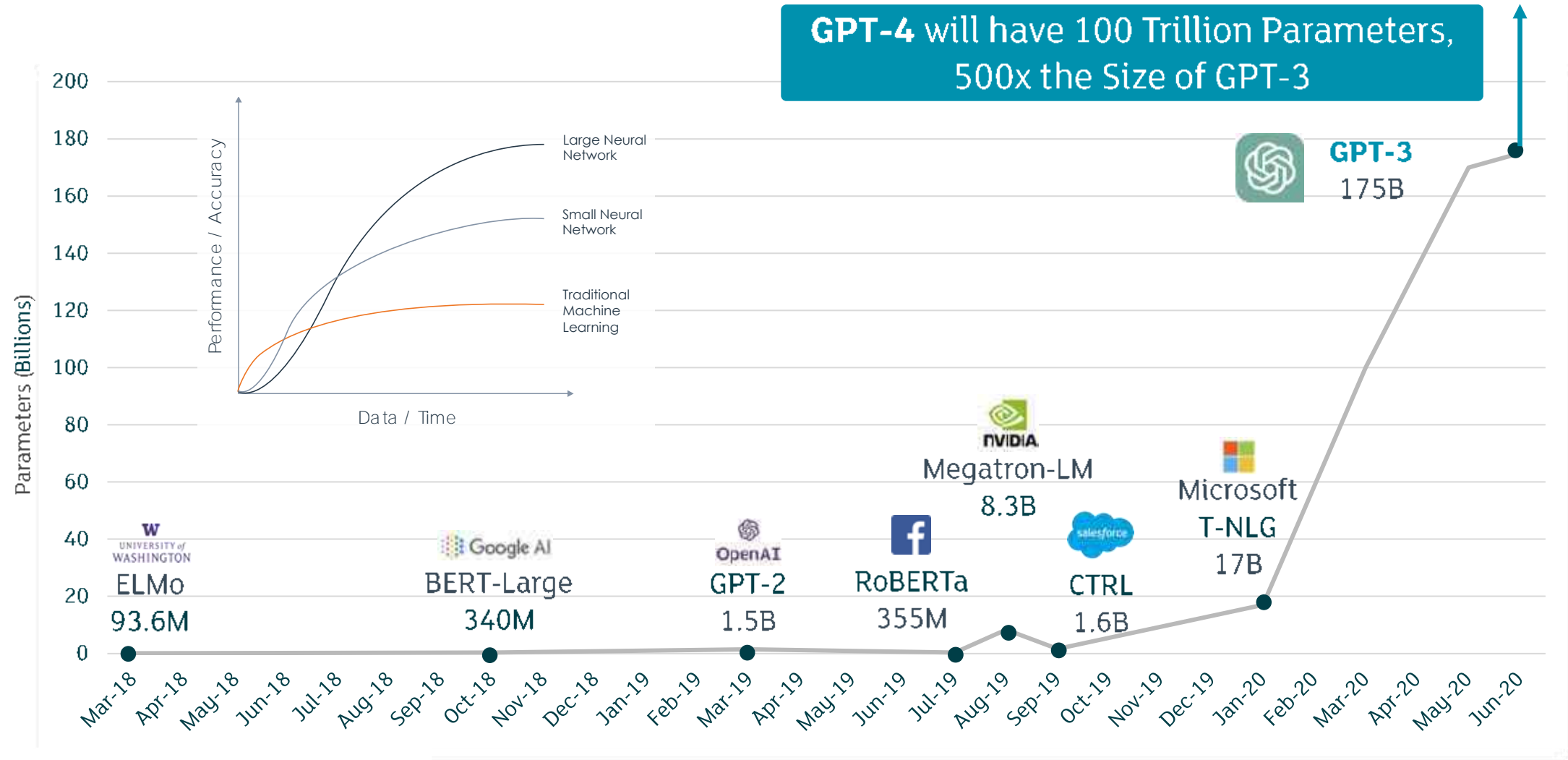
Technology innovation

- 1 Mainframe
- 2 Client server & PCs
- 3 Web 1.0, e-commerce
- 4 Web 2.0, cloud, mobile
- 5 Big data, analytics, visalization
- 6 IoT & smart machine
- 7 AI
- 8 Quantum computing

Pace of data and information change will never be this slow again.



The AI model growth is exponential



GPT-3 compute power needed

- The first training time for **GPT-3** was approximately 3 months.
- 10,000 GPUs and 285,000 processor cores
- Model continues to be refined and updated even after its initial training.
- Retraining about 2 Weeks with 1'000 GPU
- Alternative: **GPT-J** is a 6 billion parameters Open-Source model trained on The Pile, comparable in performance to the GPT-3 version of similar size — 6.7 billion parameters.

moving. forward. together.



How much does AWS charge to manage and run GPT3 for 3 years and for each training?

(info as of Sept 2020)



AI areas and use cases



Natural Language Processing

- Customer service. Chatbots or virtual assistants
- Language translation
- Speech to text (vice versa)
- Sentiment analysis
- **NER – Named entity rec**
- Information extraction
- Text summarization
-



Computer Vision

- **Face Recognition**
- **Image Classification** (dog, car, person)
- **Object Detection** (Trash sorting)
- **Image Segmentation** (Tumor, Brain, Video Surveillance)
- ...



Recommender & Prediction

- Product
- Movie
- Music
- Industry – Service
- Management support
- Supply chain
- Customer Curn
- Marketing
- Risk Management
- ...



AI for Science

- Drug discovery
- Climate model
- Astronomy
- New Algorithm
- ...



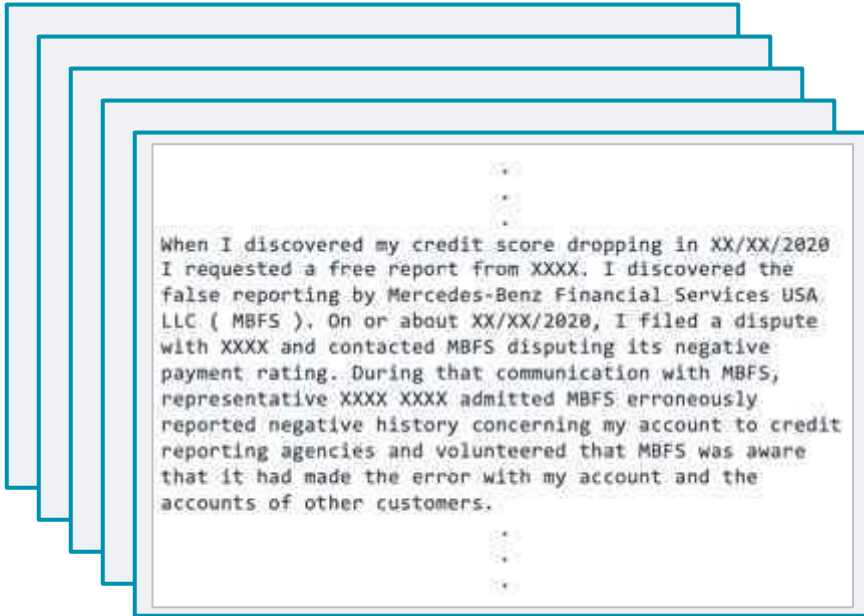
NLP use cases (excerpt)

A customer email processing AI example

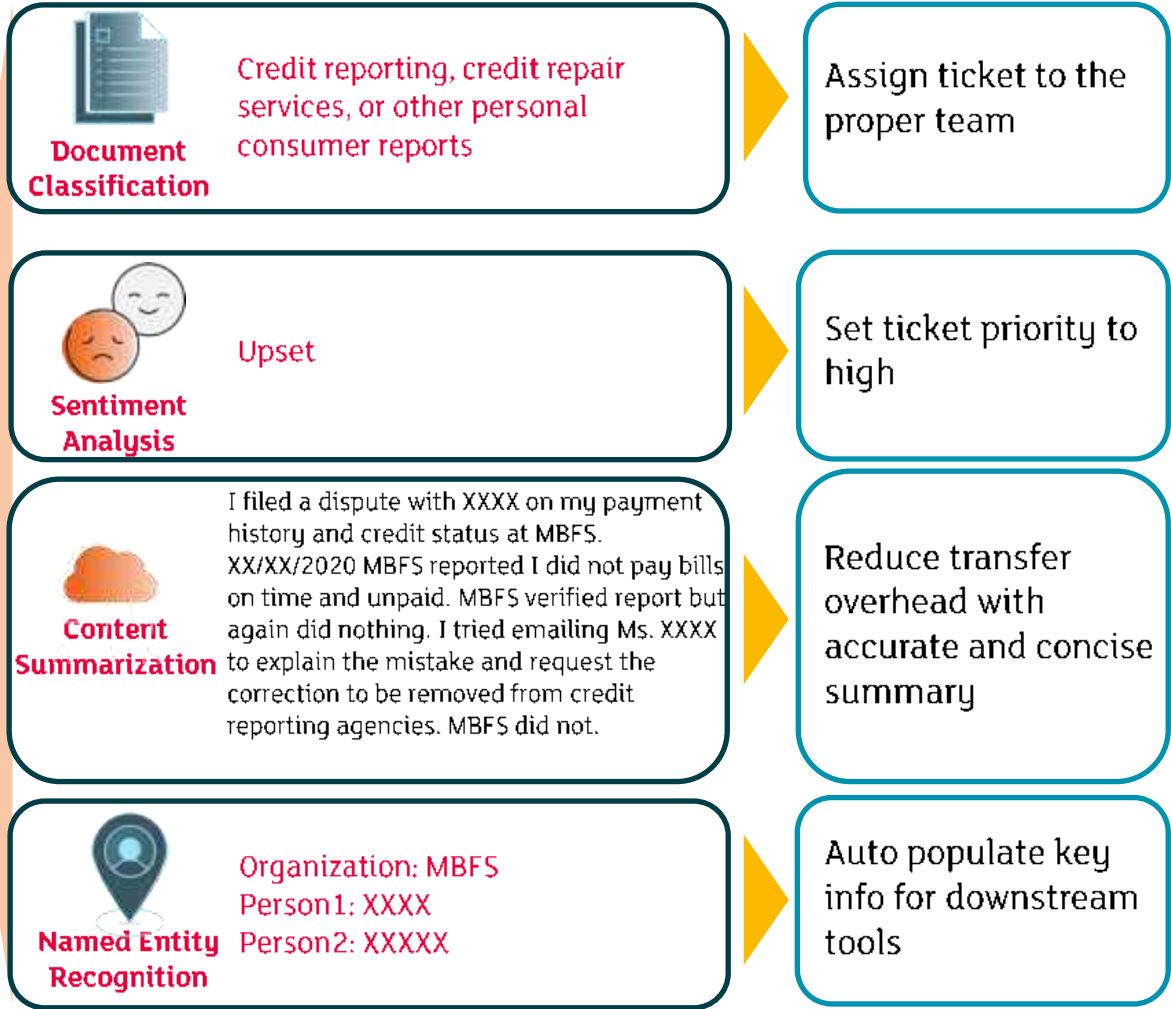
With the highest accuracy across the board



Customer Complaint Dataset












About 17,000 samples of long form emails each with 500-1200 words

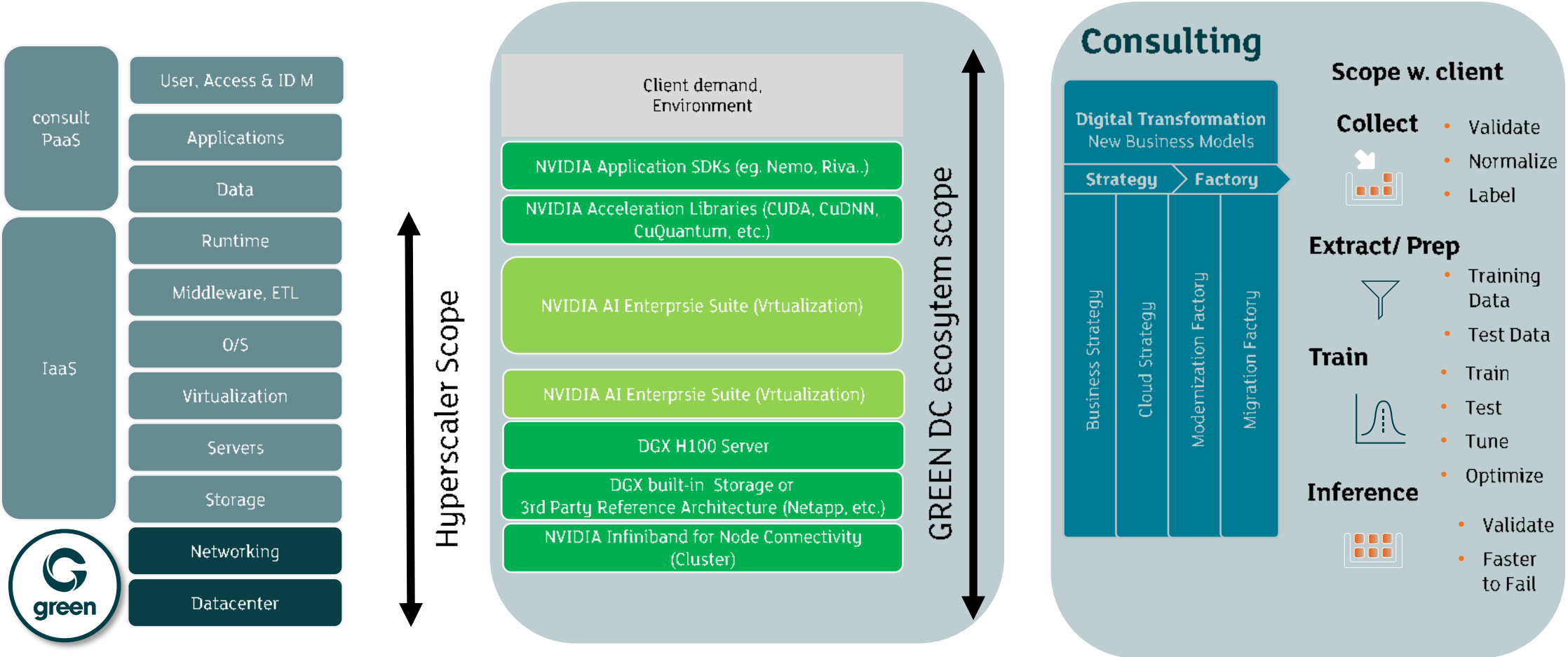


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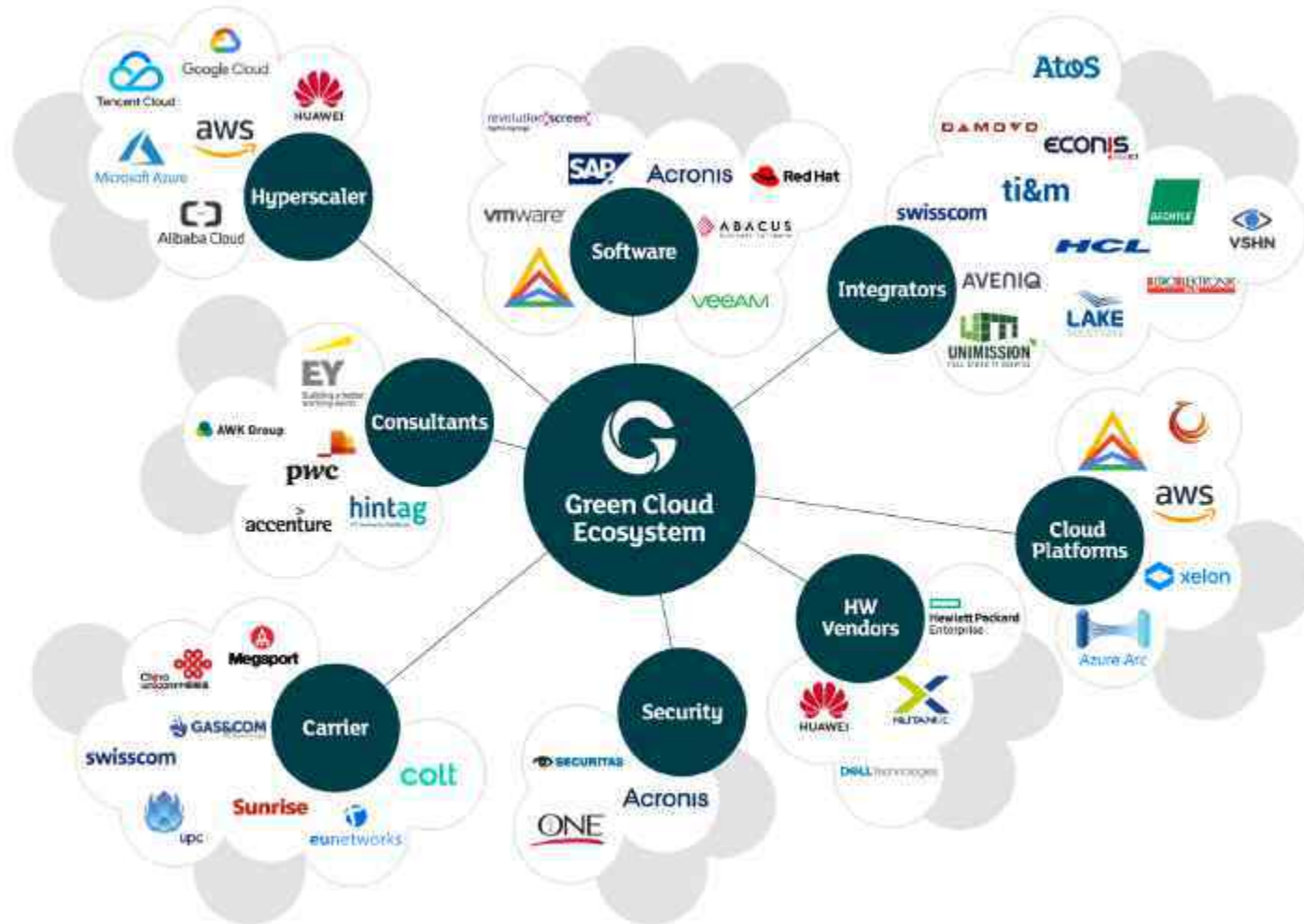
AI use cases by industry

	Healthcare	Improve the accuracy of medical diagnoses , develop personalized treatment plans, and reduce healthcare costs
	Finance	Fraud detection, risk management , and algorithmic trading
	Retail	Inventory management, demand forecasting , and personalizing the shopping experience for customers
	Transportation	Autonomous vehicles , traffic management, and optimizing delivery routes
	Energy	Predictive maintenance in the energy sector, improving energy efficiency, optimizing the production, and distribution of energy
	Manufacturing	Quality control, predictive maintenance , and optimizing production processes
	Security	Cybersecurity, such as detecting and mitigating cyberattacks , and for physical security, such as recognizing faces and license plates in real-time, medical image interpretation
	Marketing	Targeted advertising, customer segmentation , and personalizing marketing messages
	Human Resources	Talent acquisition, performance evaluation , and career development

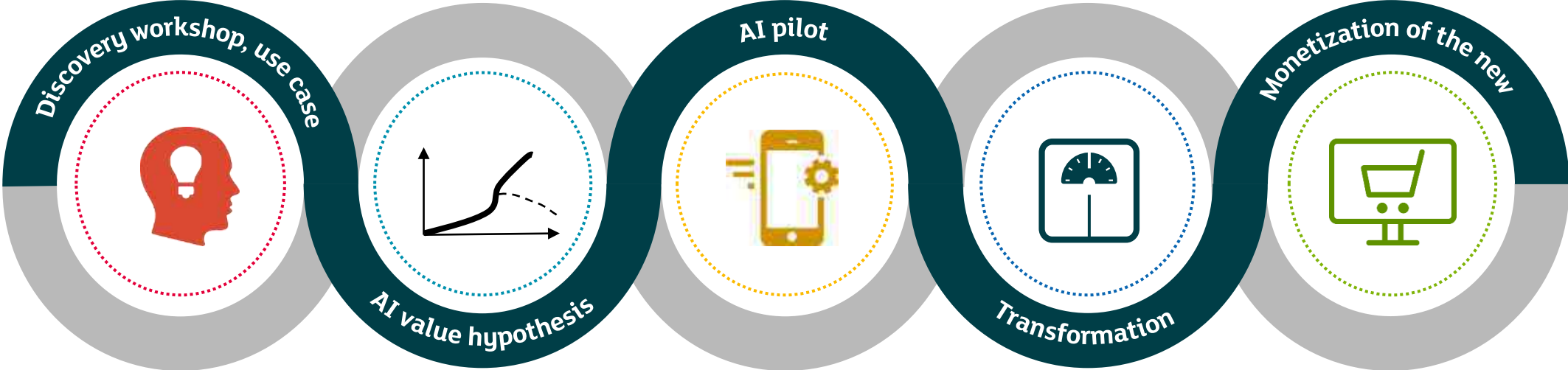
AI as a Service from the Green eco-system



Profit from the experience of our Ecosystem partners



AI as a service Value realization framework



Let's connect:

moving. forward. together.

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